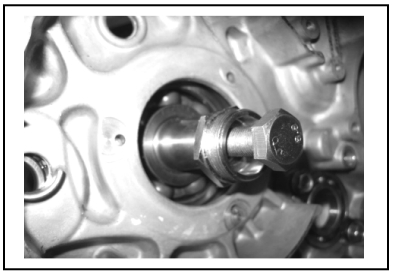
Tusk Crank Puller/Installer Tool Instructions

Note: Pulling and installing a crank is an advanced procedure. It should only be performed by an experienced mechanic with the aid of a model specific service manual.

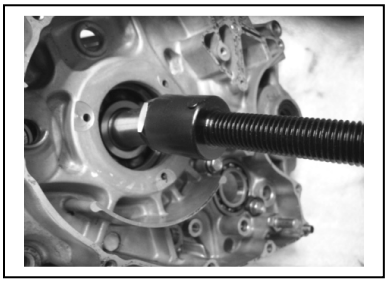
Note: If the tool only fits one side of the crank being installed, refer to the "heat/freeze" method below.

The Tusk puller/installer consists of, (1) housing, (1) pulling shaft and nut, (1) main coupler, (1) 12mm x 1.25 coupler for male crank end, (1) 10mm x 1.25 coupler for male crank end, (1) 12mm x 1.25 bolt for female crank end, (1) 10mm x 1.25 bolt for female crank end, (2) steel bars.

1. Disassemble puller/installer by removing nut off pulling shaft and sliding out of housing. Unthread main coupler.



2. With the crank aligned in the case, slide main coupler over crank end and thread appropriate coupler or bolt in/on crank. If you have an application that calls for another size bolt or coupler than what is provided, it may be possible to use the original flywheel/primary gear mounting nut or bolt.



3. Thread main coupler into pulling shaft. Slide housing over the pulling shaft and snug the pulling shaft nut. Make sure everything (crank and tool) is aligned and snug. Nothing should be tight at this point.

4. If the base of the puller does not fit flush against the case (part of the case or engine component may interfere) the steel bars are needed to rest against the case.

5. Using a 26mm or adjustable wrench, tighten the puller nut until crank or bearing is seated in case.
6. Disassemble and remove puller/installer from crank.

Tusk Crank Puller/Installer Tool C-clip Adaptor (PN# 1329270001)

* Some Crank shafts use a C-clip to hold the primary gear on (This is common on many Kawasaki models). If your crank Uses a C-clip, the Tusk C-Clip adaptor set is required (part # 1329270001, sold separately).

* Use the new coupler and included C-clip on larger crankshafts.

* Use the new coupler, included bushing, and stock C-clip on smaller crank shafts.

Heat/Freeze method – (For cranks that can only be pulled from one side)

*Some cranks will not work with the Crank puller tool from both sides of the crank. As long as the tool can be used on one side, installation can still be done accurately with the "Heat/freeze method". This method allows the crank bearing to expand enough to drop the crank into place with almost no resistance.

It only works on the first side installed, so the second side installed will require the crank puller tool. Install the crank side that won't work with the tool first (usually primary gear side) using the heat/freeze method.

1. Freeze the crank – Put the crank in a plastic bag and put it in the freezer.
2. Heat the bearing/case side the crank is going in to. This can be done with a small propane torch. Slowly heat the bearing and case around the bearing by moving the torch flame in a circular motion. If you have a crank seal on the inside of the cases (therefor it can't be installed after the crank is installed), do not use a flame to heat the bearing/case as it will damage the seal. Instead, heat the case slowly to about 200 degrees Fahrenheit in an oven (your wife may not like you using her oven for this, but it works great!) Regardless of heating method, check the heat by flipping small drops of water on the case every few seconds. As soon as it starts to sizzle (boil) the case is hot enough.
3. With the heated case supported on its side off your work bench (so the crank has room to drop into place), wipe the cold crank surface so it is clean and quickly drop it into the crank bearing in the case.
4. Allow the case to cool and the crank to warm. Assemble transmission, seals, etc. and refer to the instructions above to pull the crank into the other case half.

Note: *Apply heat slowly and evenly to the case half and main bearing and do not overheat. Water boils at 212 degrees Fahrenheit (at sea level). This is a safe temperature for your cases (operating temps get much higher).*